COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF ENERGY RESOURCES (DOER)
Mark Sylvia, Commissioner

RFI-ENE-2014-030

REQUEST FOR INFORMATION

MA Clean Vehicle Project Technology

DOER Issues RFI	February 28, 2014
RFI Response Due	March 21, 2014

Applicant Name:	*Web address:*
Street:	*Authorized Agent:*
City & State:	*Authorized Agent's title:*
Zip Code:	*Authorized Agent's phone:*
Main phone #:	*Authorized Agent's email:*

Interested parties to this Request for Information (RFI) are invited to respond to all of the questions in this document. This RFI is being issued by the Massachusetts Department of Energy Resources (DOER) Alternative Transportation Program.

Responses to this RFI shall serve solely to assist DOER in understanding the current state of the technology and marketplace with regard to the solicited information and/or to DOER in connection with the potential development of a solicitation for a Program Opportunity Notice (PON) in the future. This RFI does not in any way obligate or require DOER's Commissioner to issue or amend a solicitation or to include any of the RFI provisions or Responses in any potential future solicitations. Responding to this RFI is entirely voluntary, and will in no way affect the Commissioner's consideration of any proposal submitted in response to any subsequent solicitation, nor will it serve as an advantage or disadvantage to any respondent bidder in the course of any PON, RFR or RFP that may be subsequently issued or amended. This RFI is not an open solicitation for any products or services, but rather is an informational inquiry by DOER into the current technological capabilities in alternative fuel vehicles and refueling. This RFI is NOT a contract or a contract solicitation. Submission of a response to this RFI does NOT create any obligations, contractual or otherwise, on behalf of DOER. Submission of a response to this RFI does NOT create any type or level of agency or partnership or any employer/employee relationship between the submitting vendor and DOER.

Introduction

DOER and the MA Clean Cities Coalition have long been at the forefront of efforts to diversify the types of motor fuels used in the Commonwealth, and to reduce greenhouse gas emissions from the transportation sector. In keeping with our efforts to lessen the use of petroleum based products as motor fuel and reduce greenhouse gas emissions, DOER is announcing a Request for Information to better inform itself on currently available technology in the realm of electric and compressed natural gas vehicles.

The Massachusetts Department of Energy Resources Alternative Transportation program proposes to replace a variety of vehicles over a cross section of fleets in the Commonwealth. This program will use the Congestion Mitigation and Air Quality (CMAQ) improvement program sponsored by the U.S Department of Transportation's Federal Highway Administration. The CMAQ program provides federal funding for surface transportation projects that result in improvements to air quality and roadway congestion mitigation. The main goal is to reduce emissions in areas designated as "nonattainment" and "maintenance" areas for criteria pollutants.

In order to receive CMAQ funding, the project must provide some level of air quality improvement in the region. As part of the CMAQ application, the quantified emission betterments (reductions) and emissions deteriorations (increases) must be presented in a consistent fashion. Pollutants for the specified area in a nonattainment or maintenance status must be included in the analysis.

1. Project Summary

The Clean Vehicle Project will offer funding for various types of programs designed to encourage a shift in the Commonwealth's transportation toward Alternative Fuel Vehicles. The following briefly outlines considerations for programs under this project.

Wireless Charging
There is now proven technology that can provide electric buses to be powered by smaller batteries and eliminate the need to charge overnight at one location. This is done through wireless charging embedded in the ground installed on a bus route. The purpose of the planned program is to replace diesel shuttle buses with battery electric shuttle buses with wireless charging. The funding from the eventual Program Opportunity Notice (PON) can be used toward shuttle bus replacement or retrofit as well as cost for the installation of equipment.

Electric Drive train Replacement
There are several companies that have developed electric drive trains for medium duty trucks and shuttle buses. A PON for the technology will be developed to determine the added cost to providing and electric drive train to both shuttle buses and medium duty (MD) trucks. Then fleets will be given the opportunity to bid for the replacement of their diesel buses or trucks to change to battery electric drives.

Electric Vehicle Fast Charging
To encourage the use of alternative fuels and the move to cleaner vehicles the state must provide adequate infrastructure for the various fuels. A PON will be issued to support the movement to electric vehicles with fast charging (DCQ). The above new electric drive vehicles will be able to take advantage of these fast charging units.

Idle Reduction
A PON will be issued to provide funding for idle reduction technologies such as hybrid electric, hydraulic hybrid, or solar hybrid technologies.

CNG Infrastructure, Vehicle Conversion and OEM CNG Vehicles
To expand the use of natural gas in the fleets the State of Massachusetts needs to expand its alternative fuel infrastructure. A PON will be issued to expand CNG infrastructure. Locations that will be evaluated are Western MA, Northeast MA and Southeast MA. The plan is to identify where fleets that are converting to CNG vehicles are, and to encourage infrastructure development to support clean burning natural gas.

A PON will be provided to determine the most viable technology for compressed natural gas (CNG) conversion kits and vendors to install the technology. This technology will be added to existing spark ignited vehicles or new vehicles being purchased by a fleet. This program will fund the added cost for the technology.

A PON will be issued to verify the added cost to add CNG technology to new CNG powered waste trucks. Then fleets will be encouraged to convert to the cleaner burning fuel. This project will fund the added cost for the CNG technology on vehicles.

Propane Vehicle Conversions
A PON will be issued to determine the added cost to converting light duty vehicles to CNG or Propane. Then fleets will be asked to apply to convert their new conventionally-fueled delivery vehicles to CNG/propane technology.

A PON will be issued for public and private transit fleets to convert their full sized transit buses to CNG technology.

2. Purpose of the RFI

DOER is issuing this RFI to obtain information on appropriate technology criteria for the Clean Vehicle Project. DOER welcomes any and all feedback on the Programs described in this RFI. This RFI has been developed to acquire information regarding the technologies for the proposed alternative fuel projects.

Grants will be available for the promotion of Alternative Fuel Vehicles and associated fueling infrastructure.

Battery Electric Vehicles:

- Replacement of diesel shuttle buses with Battery Electric shuttle buses using wireless charging
- Replacement of diesel medium duty trucks or shuttle buses with plug in battery-electric drive
- Electric fueling infrastructure
- Idle reduction technology
- Hybrid retrofit for light duty vans and cars

Natural Gas:

- Shuttle bus conversion to compressed natural gas (CNG)
- Support for new CNG fueling stations
- Replacement of diesel waste collection trucks to CNG
- Propane conversion for light duty trucks
- Conversion of transit buses to natural gas

3. RFI Submission Deadline

Interested parties are invited to submit information no later than **March 21, 2014**. The Department requests responses to specific questions posed to assist in the development of the Programs and subsequent PONs.

While the Department will evaluate all conforming RFI submissions, the Department makes no commitment to any submitter that it will incorporate or otherwise act upon any information provided in response to this RFI or the subsequent PONs. This RFI does not commit DOER to award a contract, to pay any costs incurred in preparing an informational proposal for this request or to procure a contract for services or supplies. DOER reserves the right to accept or reject any or all responses received as a result of this request. DOER also reserves the right to discontinue the RFI and PON process at any time.

4. Information Solicited

DOER specifically requests Responses to the following on:

Electric Vehicle Projects:

Inductive Power Transfer (IPT) systems including associated bus technology:

a. Please provided descriptions and specifications on the types of charging equipment available for Inductive Power Transfer (IPT) including but not limited to:
    - Power transfer efficiency
    - Nominal power transfer
    - Power transfer flexibility as a function of gap spacing and/or misalignment value
    - Applicable safety and EMF standards
b. Please provided descriptions and specifications on the types of associated vehicle batteries available for IPT

c. Please describe any vehicle to grid technologies available provided with the vehicles. List of any additional hardware that might be needed to provided V2 G or V2 Home service
d. Please identify any features or capabilities of your product or service that are not listed within the features or capabilities detailed above that would be relevant to this project including what makes your product stand out among competing technologies
e. How many application sites do you have and how many do you expect to reach nationally by the end of 2014 and in the future
f. How will your costs scale with your production volume?
g. Please present how long it would take from order of bus to delivery, and installation of charging equipment
h. Please identify and describe all warranties available on the system components
i. Indicate the performance criteria that need to be considered to evaluate the success of the technology and the project performance
j. Indicate how often, in what format performance data should be collected, verified, and reported to DOER and the project participants (host)
k. Please identify any data on miles driven by an IPT-compatible vehicle, durability of bus and IPT equipment and other during demonstration or use of the technology which would be relevant to comparing technologies and their capability
l. Describe any problems and how the problem was corrected (and equipment downtime, how fast repairs made)
m. Please list the general cost(s) for the bus by model and battery size
n. Please present ideal teaming arrangements for the completion of a project of this nature in its entirety
o. What should maintenance requirements be? Who should be responsible for maintenance?
p. Are there repair services available? Who would respond to a problem? How would a problem be identified to the vendor? How fast can service be provided?
q. How long required for repairs - provide an average time for repair/equipment downtime
r. Is operator training available?
s. Please provide any information that you deem pertinent to this investigation not specifically covered in the above questions. All solicitations by technology.
t. Propose mechanism for assuring effective response to adverse events (e.g., product removal strategy and replacement)
u. What approvals (local, state or federal) were needed for installation and continued use
v. How will the technology create value for users? (e.g., save time, save money, improve performance) How rapidly will users capture value from the innovation? (e.g. ROI, Payback Period)

Battery Technology:

By make and model:

a. What are the costs to add electric hybrid, solar or hydraulic hybrid technology to a vehicle?
b. What is the additional cost to purchase a medium duty electric truck by battery size?

Natural Gas:

a. By make, model, and available technology:
b. What is the cost to retro fit a light duty, medium duty and heavy duty vehicle with CNG power?
c. What is the cost of new CNG fueled vehicles of the same caliber?
d. Please include vehicles comparable to full size transit buses and waste collection vehicles.

5. General Instructions

A. This RFI has been posted on February 28, 2014.

B. All questions must be submitted to the Question and Answer Forum on Comm-PASS. All answers, notifications, releases and amendments to this RFR will be posted on Comm-PASS.

In order to access the Question and Answer Forum:

1. From the Comm-PASS homepage (www.comm-pass.com), scroll to the bottom of the page and select **Search for bidders' forum**, located near the middle of the page.
2. Under ****AND**** **Search by Specific Criteria**, enter **RFI-ENE-2014-030** into the **Referenced Solicitation Number** search bar and click Search.
3. Click the link at the top of the page that says **There are 1 Forum(s) found that match your search criteria**.
4. On the right side of the page, click the eyeglasses under **View** to access the forum.
5. This Summary page contains information about the forum for **RFI-ENE-2014-030** including its opening and closing dates. To post a question to the forum, click **Ask a Question in the Forum**, located in the top right corner of the page **before** the closing date has passed.
6. Enter the required sign-in information (this will be kept private from the general public and is only visible to the forum manager and contact person) and click **Next Step** at the bottom of the page.
7. Enter your question into the **Question** box and click **Submit Question** at the bottom of the page.

C. Response Submissions. All responses to this RFI are due no later than 4:00 p.m. (EST) on March 21, 2014. Please submit one (1) paper hard copy of the submission and (1) electronic copy to the contact person listed below.

D. Contact Information: Please direct all communications, questions, and responses to the following contact:

Contact:	Michelle Broussard Department of Energy Resources 100 Cambridge Street, Suite 1020 Boston, MA 02114
Telephone:	(617) 626-7377
E-mail:	michelle.broussard@state.ma.us
RFI Name:	MA Clean Vehicle Project Technology
RFI File Number:	RFI-ENE-2014-030

6. Freedom of Information Act

Due regard will be given for the protection of proprietary information contained in all proposals received; however, participants should be aware that all materials associated with project proposals during the entirety of the Program are subject to the terms of the Freedom of Information Act (FOIA) and all rules, regulations and interpretations resulting therefrom. It will not be sufficient for participants to merely state in general terms that the proposal is proprietary in nature and, therefore, not subject to release to third parties. **Those particular sentences, paragraphs, pages or sections which a participant believes to be exempt from disclosure under the FOIA must be specifically identified as such.**

7. Information Requested

Please provide the following for the purposes of this RFI.

- **a.** Company Name (please list parent company as well)
- **b.** Provide a description of your company and the basis of your expertise in offering a response to this RFI.
- **c.** Please provide Responses to questions identified in Section 4 of this RFI.

RESPONSES ARE DUE BY Friday March 21, 2014 @4:00 PM